UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,206	11/26/2003	Wei Fan	YOR920030392US1 (8728-652	8526

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EXAMINER
ONI, OLUBUSOLA

ART UNIT	PAPER NUMBER
2168	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11/26/2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-6 and 8-13</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-6 and 8-13</u> is/are rejected.

7)☒ Claim(s) <u>7, 4, 9</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: Application filed on 11/26/2003.

Objection

2. Claims 4 and 9 are objected to because the language used in the claims is unclear.

Applicant should make necessary correction to these claims.

Allowable Subject Matter

3.   Claim 7 is objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claim 8 recites the limitation "the ViST structure" in line 1 and "the S-Ancestor B+

Tree" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation "the ViST structure in line 2-3 and "the S-Ancestor

B+ Tree" in line 8. There is insufficient antecedent basis for this limitations in the claim.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:.

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6.   Claims 1-6 and 8-13 are rejected under 35 U.S.C. 102(a) as being anticipated by

Wang et al. " A dynamic index method for querying Xml data by tree structures".

Hereinafter "Wang".

As per claim 1, Wang teaches:

receiving one or more XML documents; {Section 1}

converting the one or more XML documents into one or more structure-encoded

sequences; { Section 1, para 8, Section 2 "structure-encoded sequences"}

 generating the ViST structure comprising: generating a D-Ancestor index {Section 1,

para 8}; generating an S-Ancestor index {Section, para 8}; and generating a doc-ID

index {Section 4, para 11 "index size and index construction time"}.

As per claim 2, Wang teaches:

The method of claim 1, wherein generating a D-Ancestor index comprises generating a

D-Ancestor B+Tree, wherein the D-Ancestor B+Tree indexes one or more (key, data)

pairs and wherein the key element is a unique (symbol, path) pair in the one or more

structure-encoded sequences, and the data element is a pointer to an S-Ancestor

B+Tree {Section 3.2-3.3}

As per claim 3, Wang teaches:

The method of claim 1, wherein generating an S-Ancestor index comprises generating

an S-Ancestor B+Tree, wherein the S-Ancestor B+Tree indexes one or more keys and

wherein each of the one or more keys is a pair [begin-ID,end-ID] {Section 3.3 "index

construction –subsequence match"}

As per claim 4, Wang teaches:

The method of claim 3, wherein generating an S-Ancestor B+Tree, wherein the S-

Ancestor B+Tree indexes one or more keys and wherein each of the one or more keys

is a pair [begin-ID,end-ID] comprises generating an S-Ancestor index comprises

generating an S-Ancestor B+Tree, wherein the S-Ancestor B+Tree indexes one or more

keys and wherein each of the one or more keys is a pair (begin-ID,end-ID), wherein IDs

of descendent nodes of a node whose label is (begin-ID,end-ID) are in the range of

[begin-ID,end-ID] {Section 3.3}

As per claim 5, Wang teaches:

The method of claim 1, wherein generating a doc-ID index comprises generating a doc-

ID B+Tree, wherein the doc-ID B+Tree indexes one or more (key,data) pairs and

wherein the key element is a node ID, and the data element is a list of XML document

Ids {Section 4, para 11 "index size and index construction time"}

As per claim 6, Wang teaches:

receiving an XML query; {Section 1}

transforming the XML query into a structure-encoded sequence{Section 1, para 8,

Section 2 "structure-encoded sequences"};

searching a ViST structure using the structure-encoded sequence and returning one or

more document Ids {Section 4, para 11 "index size and index construction time"}.

As per claim 8, Wang teaches:

receiving a new XML document; {Section 1}

transforming the XML document into a structure-encoded sequence; {Section 1, para 8,

Section 2 "structure-encoded sequences"}

inserting each element of the sequence into D-Ancestor B+Tree;{Section 3.2-3.3}

assigning a new label if the step of inserting creates a new node;{Section 3.2-3.3} and

inserting the new label into the S-Ancestor B+Tree{Section 3.2-3.3}

As per claim 9, Wang teaches:

The method of claim 8, wherein assigning a new label if the step of inserting creates a

new node comprises assigning a new label (x,y) if the step of inserting creates a new

node{Section 3.3-3.4}

As per claim 10, Wang teaches:

The method of claim 8, wherein inserting the new label into the S-Ancestor B+Tree

comprises inserting the new label (x,y) into the S-Ancestor B+Tree{Section {Section 3.3-

3.4}

As per claim 11, Wang teaches:

receiving one or more XML documents; {Section 1}

converting the one or more XML documents into one or more structure-encoded

sequences; { Section 1, para 8, Section 2 "structure-encoded sequences"}

{Section 1, para 8}; generating an S-Ancestor index {Section, para 8}; and generating a

doc-ID index {Section 4, para 11 "index size and index construction time"}.

As per claim 12, Wang teaches:

receiving an XML query; {Section 1}

transforming the XML query into a structure-encoded sequence{Section 1, para 8,

Section 2 "structure-encoded sequences"};

searching a ViST structure using the structure-encoded sequence and returning one or

more document Ids {Section 4, para 11 "index size and index construction time"}.

As per claim 13, Wang teaches:

receiving a new XML document; {Section 1}

transforming the XML document into a structure-encoded sequence; {Section 1, para 8,

Section 2 "structure-encoded sequences"}

inserting each element of the sequence into D-Ancestor B+Tree;{Section 3.2-3.3}

assigning a new label if the step of inserting creates a new node;{Section 3.2-3.3} and

inserting the new label into the S-Ancestor B+Tree{Section 3.2-3.3}

Conclusion

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUBUSOLA ONI whose telephone number is 571-272-2738. The examiner can normally be reached on 7.30-5.00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OLUBUSOLA ONI
Examiner
Art Unit 2168

KHANH B. PHAM
PRIMARY EXAMINER